

# toughbook 48

Full-featured, Affordable, Desktop Alternative

- *Magnesium Alloy LCD Case*
- *Shock-mounted, Removable HDD*
- *Optional SmartCard Reader for Added Security*
- *Intel® Centrino™ Mobile Technology*



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ideas for life



Computers for the Outside World™

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|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------|------------------|--------------|----------------------|------------------|------------------------------|-------|----------------------|-----------|---------|----------------------------------|------------|-----------------------------------|-------------------|-------------------|----------|-------------------------------------|----------------|-------|
| <b>CPU</b>                     | <ul style="list-style-type: none"> <li>Intel® Pentium® M Processor 1.5GHz or 1.4GHz</li> <li>1MB on-die L2 cache</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>STORAGE &amp; MEMORY</b>    | <ul style="list-style-type: none"> <li>256MB SDRAM (DDR) standard, expandable to 768MB (PC-2100 memory is required)</li> <li>40GB HDD (shock-mounted &amp; easily removable)</li> <li>Integrated 1.44MB FDD standard</li> <li>Combo Drive (DVD-ROM*/CD-RW**) standard</li> <li>Optional SmartCard Reader</li> </ul>                                                                                                                                                                                                                                                                                                                                                       |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>DISPLAY</b>                 | <ul style="list-style-type: none"> <li>14.1" 1024 x 768 (XGA) TFT Active Matrix Color LCD</li> <li>External video support up to 2048 x 1536 at 4 billion colors (32 bit color depth)</li> <li>ATI MOBILITY™ RADEON™ 9000 video controller, 64MB VRAM</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>AUDIO</b>                   | <ul style="list-style-type: none"> <li>Integrated stereo speakers</li> <li>Convenient keyboard volume and mute controls</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>PC CARD SLOT</b>            | <ul style="list-style-type: none"> <li>Type II x 2 or Type III x 1</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>KEYBOARD &amp; INPUT</b>    | <ul style="list-style-type: none"> <li>87-key with dedicated Windows® key</li> <li>Electrostatic touchpad with vertical scrolling support</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>INTERFACE</b>               | <table> <tr> <td>• External Keyboard/Mouse</td><td>Mini-DIN 6 pin</td></tr> <tr> <td>• External Video</td><td>D-sub 15 pin</td></tr> <tr> <td>• Headphones/Speaker</td><td>Mini-jack Stereo</td></tr> <tr> <td>• Integrated 10/100 ethernet</td><td>RJ-45</td></tr> <tr> <td>• Microphone/Line In</td><td>Mini-jack</td></tr> <tr> <td>• Modem</td><td>Integrated 56Kbps V.92 compliant</td></tr> <tr> <td>• Parallel</td><td>D-sub 25 pin (bi-directional/ECP)</td></tr> <tr> <td>• Port Replicator</td><td>Dedicated 100 pin</td></tr> <tr> <td>• Serial</td><td>D-sub 9 pin (UART 16550 compatible)</td></tr> <tr> <td>• USB 2.0 (x2)</td><td>4 pin</td></tr> </table> | • External Keyboard/Mouse | Mini-DIN 6 pin | • External Video | D-sub 15 pin | • Headphones/Speaker | Mini-jack Stereo | • Integrated 10/100 ethernet | RJ-45 | • Microphone/Line In | Mini-jack | • Modem | Integrated 56Kbps V.92 compliant | • Parallel | D-sub 25 pin (bi-directional/ECP) | • Port Replicator | Dedicated 100 pin | • Serial | D-sub 9 pin (UART 16550 compatible) | • USB 2.0 (x2) | 4 pin |
| • External Keyboard/Mouse      | Mini-DIN 6 pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • External Video               | D-sub 15 pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • Headphones/Speaker           | Mini-jack Stereo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • Integrated 10/100 ethernet   | RJ-45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • Microphone/Line In           | Mini-jack                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • Modem                        | Integrated 56Kbps V.92 compliant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • Parallel                     | D-sub 25 pin (bi-directional/ECP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • Port Replicator              | Dedicated 100 pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • Serial                       | D-sub 9 pin (UART 16550 compatible)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| • USB 2.0 (x2)                 | 4 pin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>WIRELESS LAN</b>            | <ul style="list-style-type: none"> <li>Intel® PRO/Wireless 2100 network connection 802.11b</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>POWER SUPPLY</b>            | <ul style="list-style-type: none"> <li>Lithium Ion battery pack (11.1V, 6300mAh)</li> <li>Battery operation: 3.5 to 5.5 hours***</li> <li>Battery charging time: approximately 3.5 hours/off, 3.5 hours/on***</li> <li>AC Adapter: AC 100V-240V 50/60Hz, Auto Sensing/Switching worldwide power supply</li> <li>Pop-up on-screen battery status reporting</li> </ul>                                                                                                                                                                                                                                                                                                      |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>POWER MANAGEMENT</b>        | <ul style="list-style-type: none"> <li>Hibernation, Standby, ACPI BIOS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>SOFTWARE</b>                | <ul style="list-style-type: none"> <li>Microsoft® Windows® XP Professional (Windows® 2000 Professional also available)</li> <li>Setup, Diagnostics, On-line Reference Manual, Adobe® Acrobat® Reader</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>SECURITY FEATURES</b>       | <ul style="list-style-type: none"> <li>Password Security: Supervisor, User, Hard-Disk Lock</li> <li>Integrated Kensington Lock Slot</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>WARRANTY</b>                | <ul style="list-style-type: none"> <li>3-year limited warranty, parts &amp; labor</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |
| <b>DIMENSIONS &amp; WEIGHT</b> | <ul style="list-style-type: none"> <li>1.8"(H) x 12.1"(W) x 10.2"(D)</li> <li>7.48 lbs., including battery</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                |                  |              |                      |                  |                              |       |                      |           |         |                                  |            |                                   |                   |                   |          |                                     |                |       |



- Magnesium Alloy LCD Case
- Shock-mounted, Removable HDD
- Optional SmartCard Reader for Added Security
- Intel® Centrino™ Mobile Technology

## INTEGRATED OPTIONS\*\*\*\*

- SmartCard Reader

## ACCESSORIES

|                                                                          |                     |
|--------------------------------------------------------------------------|---------------------|
| • AC Adapter (3 pin)                                                     | CF-AA1653M          |
| • Battery Charger                                                        | CF-VCBTB1U          |
| • ComFolio Universal Carrying Case (large capacity, fits all Toughbooks) | CF-COMUNIV          |
| • FieldMate Carrying Case                                                | CF-FM50             |
| • FieldMate Carrying Case with User Harness                              | CF-FM50HR           |
| • Lithium Ion Battery Pack                                               | CF-VZSU18BU         |
| • Memory Cards                                                           |                     |
| – 256MB                                                                  | CF-WMBA30256        |
| – 512MB                                                                  | CF-WMBA30512        |
| • Port Replicator                                                        | CF-VEB481           |
| – DC-In Jack                                                             |                     |
| – External Display Port                                                  | D-sub 15 female     |
| – External Keyboard/Mouse Port                                           | Mini DIN 6 pin      |
| – Headphone Jack                                                         | Mini-jack           |
| – LAN Port                                                               | RJ 45               |
| – Lock Slot for Kensington Theft Prevention Chain                        |                     |
| – Microphone Jack                                                        | Mini-jack           |
| – Modem Port                                                             | RJ 11               |
| – Parallel Port                                                          | D-sub 25 pin female |
| – Serial Port                                                            | D-sub 9 pin male    |
| – USB Ports (2)                                                          | 4 pin               |

\*Decoder software is required for DVD movie play. (Included)

\*\*CD authoring software is required to write CD-R/RW. (Included)

\*\*\*Battery performance features such as charge time and life span can vary according to the conditions under which the computer and battery are used. Battery operation and recharge times will vary based on many factors including screen brightness, applications, features, power management, battery conditioning and other customer preferences.

\*\*\*\*Integrated Options may vary depending on your notebook configuration.

Please consult your reseller or Panasonic representative before purchasing.

For more information call 1-800-662-3537 or visit us on the Web at [panasonic.com/toughbook](http://panasonic.com/toughbook).

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